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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet

1

of

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Complete if Known

Application Number	10/070,280
Filing Date	July 29, 2002
First Named Inventor	Manku, Tajinder
Art Unit	2681
Examiner Name	Unassigned
Attorney Docket Number	085909-000000US

U.S. PATENT DOCUMENTS

Examiner	Cite No. ¹	Document Number Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Bj	1	US-6,014,408	01-11-2000	Naruse et al.	
	2	US-5,838,717	11-17-1998	Ishii et al.	
	3	US-5,390,346	02-14-1995	Marz	
	4	US-4,110,834	08-29-1978	Altwein	

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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)				
Bj	5	EP	977351	A	02-02-2000			<input type="checkbox"/>
	6	EP	902549	A	03-17-1999			<input type="checkbox"/>
	7	EP	837565	A	04-22-1998			<input type="checkbox"/>
	8	WO	96/01006	A	01-11-1996			<input type="checkbox"/>
	9	GB	2331207	A	05-15-1999			<input type="checkbox"/>

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Sheet 2 of 2

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Application Number	10/070,280
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First Named Inventor	Manku, Tajinder
Art Unit	2681
Examiner Name	Unassigned
Attorney Docket Number	085909-000000US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
Bj	10	AUE et al. "Multicarrier spread spectrum modulation with reduce dynamic range," IEEE Vehicular Technology Conference Atlanta, vol. 2, pp. 914-917 (1996).	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 4

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Application Number	10/070,280
Filing Date	February 28, 2002
First Named Inventor	Tajinder Manku
Group Art Unit	2681
Examiner Name	Unassigned
Attorney Docket Number	085909-000000US

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U.S. PATENT DOCUMENTS

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		Number	Kind Code ² (if known)			
	1.	6,324,388	B1	Souetlinov	11-27-2001	
	2.	6,308,058	B1	Souetlinov et al.	10-23-2001	
	3.	2001/0014596	A1	Takaki et al.	08-16-2001	
	4.	6,243,569	B1	Atkinson	06-05-2001	
	5.	6,194,947		Lee et al.	02-27-2001	
	6.	6,167,247		Kannel et al.	12-26-2000	
	7.	6,148,184		Manku et al.	11-14-2000	
	8.	6,125,272		Baulista	09-26-2000	
	9.	6,091,940		Sorrels et al.	07-18-2000	
	10.	6,073,000		Shinohara	06-06-2000	
	11.	6,061,551		Sorrells et al.	05-09-2000	
	12.	6,049,706		Cook et al.	04-11-2000	
	13.	6,029,058		Namgoog et al.	02-22-2000	
	14.	6,002,923		Sahlman	12-14-1999	
	15.	5,953,643		Speake et al.	09-14-1999	
	16.	5,949,830		Nakanishi	09-07-1999	
	17.	5,918,169		Dent	06-29-1999	
	18.	5,918,167		Tiller et al.	06-29-1999	
	19.	5,715,530		Eul	02-03-1998	
	20.	5,530,929		Lindqvist et al.	06-25-1996	
	21.	5,467,294		Hu et al.	11-14-1995	
	22.	5,451,899		Lawton	09-19-1995	
	23.	5,422,889		Sevenhans et al.	06-06-1995	
	24.	5,416,803		Janer	05-16-1995	
	25.	5,390,346		Marz	02-14-1995	
	26.	5,361,408		Watanabe et al.	11-01-1994	
	27.	5,303,417		Laws	04-12-1994	
	28.	5,228,042		Gauthier et al.	07-13-1993	
	29.	5,220,688		Tao	06-15-1993	
	30.	5,179,728		Sowadski	01-12-1993	
	31.	5,128,623		Gilmore	07-07-1992	
	32.	4,955,039		Rother et al.	09-04-1990	
	33.	4,811,425		Feerst	03-07-1989	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 4

Complete if Known

Application Number	10/070,280
Filing Date	February 28, 2002
First Named Inventor	Tajinder Manku
Group Art Unit	2681
Examiner Name	Unassigned
Attorney Docket Number	085909-000000US

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U.S. PATENT DOCUMENTS

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		Number	Kind Code ² (if known)			
	34.	4,736,390		Ward et al.	04-05-1988	
	35.	4,726,042		Vance	02-16-1988	
	36.	4,677,690		Reed	06-30-1987	
	37.	4,618,967		Vance et al.	10-21-1986	
	38.	4,599,743		Reed	07-08-1986	
	39.	4,583,239		Vance	04-15-1986	
	40.	4,571,738		Vance	02-18-1986	
	41.	4,525,835		Vance et al.	06-25-1985	
	42.	4,523,324		Marshall	06-11-1985	
	43.	4,521,892		Vance et al.	06-04-1985	
	44.	4,506,262		Vance et al.	03-19-1985	
	45.	4,488,064		Vance	12-11-1984	
	46.	4,480,327		Vance	10-30-1984	
	47.	4,476,585		Reed	10-09-1984	
	48.	4,470,147		Goatcher	09-04-1984	
	49.	4,462,107		Vance	07-24-1984	
	50.	4,322,851		Vance	03-30-1982	
	51.	4,271,501		Vance et al.	06-02-1981	
	52.	4,254,503		Vance	03-03-1981	
	53.	4,238,850		Vance	12-09-1980	
	54.	4,193,034		Vance	03-11-1980	

FOREIGN PATENT DOCUMENTS

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		Office ³	Number ⁴	Kind Code ⁵ (if known)				
	55.	CA	2,273,671		Sreenath et al.	03-05-2002		
	56.	CA	2,300,045	A1	Mitel	09-03-2001		
	57.	CA	2,331,228	A1	Schultz et al.	07-18-2001		
	58.	CA	2,339,744	A1	Mitel	03-02-2001		
	59.	CA	2,281,236	A1	Mitel	03-01-2001		
	60.	CA	2,272,877		Madni et al.	11-27-1999		
	61.	CA	2,270,347		Redfern et al.	10-29-1999		

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Sheet 3 of 4

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Application Number 10/070,280
Filing Date February 28, 2002
First Named Inventor Tajinder Manku
Group Art Unit 2681
Examiner Name Unassigned
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		Office ³	Number ⁴	Kind Code ⁵ (if known)				
22	62	CA	2,316,969	A1	Kaufman et al.	07-15-1999		
	63	CA	2,224,953		Manku	06-16-1999		
	64	CA	2,305,134	A1	Schier et al.	04-15-1999		
	65	CA	2,243,757	A1	Manku et al.	02-28-1999		
	66	CA	2,245,958		Manku	02-28-1999		
	67	CA	1,290,403		Rother et al.	10-08-1991		
	68	CA	1,226,627		Kasperkovitz	09-08-1987		
	69	EP	1085652	A2	Cowley	03-21-2001		
	70	EP	1067689	A2	Thorpe et al.	01-10-2001		
	71	EP	0993125	A2	Ma et al.	04-12-2000		
	72	EP	1085665	A2	Mitel	03-21-1999		
	73	EP	0899868	A1	Mitel, Corp.	03-03-1999		
	74	EP	0782249	A1	Glas et al.	07-02-1997		
	75	EP	0721270	A1	Lawton	07-10-1996		
	76	EP	0634855	A1	Lawton	01-18-1995		
	77	GB	2329085	A	GEC-Marconi	03-10-1999		
	78	PCT	WO 00/69085	A1	Morphics Tech.	11-16-2000		
	79	PCT	WO 00/05815	A1	Global Comm.	02-03-2000		
	80	PCT	WO 99/55015	A1	Ericsson, Inc.	10-28-1999		
	81	PCT	WO 99/55000	A2	Silicon Image	10-28-1999		
	82	PCT	WO 97/50202	A2	Cummings	12-31-1997		
23	83	PCT	WO 96/01006	A1	Honeywell, Inc.	01-11-1996		

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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

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TBL	84	ABIDI "Direct-Conversion Radio Transceivers for Digital Communications," IEEE J. of Solid-State Circuits," 30:1399-1410 (1995).	
	85	ANVARI et al. "PERFORMANCE OF A DIRECT CONVERSION RECEIVER WITH $\pi/4$ -DPSK MODULATED SIGNAL," IEEE publication CH2944-7/91/0000/0822, pp. 822-827 (1991).	
	86	CHO et al. "A Single Chip CMOS Direct-Conversion Transceiver For 900MHz Spread-Spectrum Digital Cordless Phones," IEEE 1999 International Solid-State Circuits Conference paper TP13.5 (1999).	
	87	ENZ "Design of Low-Power and Low-Voltage Analog and RF Integrated Circuits in Ultra Deep Submicron CMOS Technologies," available from the Electronics Laboratory of EPFL (Lausanne) website http://legwww.epfl.ch (2001).	
	88	GCT Semiconductor, Inc. "GCT's Direct Conversion Technology," product information available from http://www.gct21.com (2002).	
	89	HEINEN et al. "A 2.7V 2.5GHz Bipolar Chipset for Digital Wireless Communication," IEEE 1997 International Solid-State Circuits Conference, paper SA 18.4 (1997).	
	90	MARSHALL et al. A 2.7GHz GSM Transceiver ICs with On-Chip Filtering," IEEE 1995 International Solid-State Circuits Conference, paper TA 8.7 (1995).	
	91	MCDONALD "A 2.5GHz BiCMOS Image-Reject Front-End," 1993 International Solid-State Circuits Conference, paper TP 9.4 (1993).	
	92	RAZAVI "Design Considerations for Direct-Conversion Receivers," IEEE Transactions on Circuits and Systems - II: Analog and Digital Signal Processing 44:428-435 (1997).	
	93	RUDELL et al. "A 1.9GHz Wide-Band IF Double Conversion CMOS Integrated Receiver for Cordless Telephone Applications," IEEE 1997 International Solid-State Circuits Conference, paper SA 18.3 (1997).	
	94	SANDULEANU et al. "Chopping: a technique for noise and offset reduction," <u>Power, Accuracy and Noise Aspects in CMOS Mixed-Signal Design</u> , chapter 5, sections 5.2 and 5.4, EDA Books Online http://www.dacafe.com (1999).	
	95	SANDULEANU et al. "LOW-POWER LOW-VOLTAGE CHOPPED TRANSCONDUCTANCE AMPLIFIER FOR NOISE AND OFFSET REDUCTION," conference paper. 23rd European Solid-State Circuits Conference Southampton, UK, 16 - 18 September 1997.	
	96	SEVENHANS et al. "An integrated Si bipolar RF transceiver for zero if 900 MHz GSM digital mobile radio frontend of a hand portable phone," Proceedings of the Custom IC Conference, San Diego 1991; IEEE publication 0-7803-0768-2, pp561-564 (1992).	
MZ	97	STETZLER et al. "A 2.7V to 4.5 V Single-Chip GSM Transceiver RF Integrated Circuit," 1995 International Solid-State Circuits Conference, paper TA 8.8 (1995).	

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